



EHC-PH, EHC-PL

User Manual

Contents subject to change without notice

Version 1.0
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1. Introduction

1.1. General and Safety Information



- For use in dry environments only.
- Read and understand all operating instructions before using this product. Keep this manual for future reference.

- Allow sufficient warm up time. Turn the scale on and allow up to 3 minutes for internal components to stabilize before weighing.
- Record the weight shortly after placing a load on the platter. Leaving loads in place for extended periods may vary the load cell's output signature and may result in a less accurate reading.
- Avoid extended exposure to extreme heat or cold. Optimum operation is at normal room temperature. See operating temperature range in the specifications table. Allow the scale to acclimate to room temperature before using.
- When storing the scale for extended periods, the battery must be charged every 60 days to avoid premature performance degradation. If the operating time is no longer acceptable even after recharging, the battery must be replaced.
- Electronic scales are precision instruments. Do not operate near cell phones, radios, computers or other electronic devices that emit radio frequencies that may cause unstable readings.

1.2. Specifications

Model	EHC-PH-3 EHC-PL-3	EHC-PH-6 EHC-PL-6	EHC-PH-15 EHC-PL-15	EHC-PH-20 EHC-PL-20	EHC-PH-30 EHC-PL-30
Capacity	3kg	6kg	15kg	20kg	30kg
	6lb	15lb	30lb	40lb	60lb
	96oz	240oz	480oz	640oz	960oz
Division	0-1.5kg: 0.5 1.5-3kg: 1g	0-3kg:1g 3-6kg:2g	0-6kg: 2g 6-15kg: 5g	0-10kg:5g 10-20kg:10g	0-15kg:5g; 15-30kg:10g
	0-3lb: 0.001lb 3-6lb: 0.002lb	0-6lb:0.002lb 6-15lb:0.005lb	0-15lb:0.005lb; 15-30lb:0.01lb	0-20lb:0.01lb 20-40lb:0.02lb	0-30lb: 0.01lb; 30-60lb:0.02lb
	0-48: 0.02oz 48-96: 0.05oz	0-96oz:0.05oz 96-240oz:0.1oz	0-240oz:0.1oz; 240-480oz:0.2oz	0-320oz:0.2oz 320-640oz:0.5oz	0-480oz:0.2oz; 480-960oz:0.5oz
Min weight	10g / 0.02lb / 0.4oz	20g / 0.04lb / 1oz	40g / 0.1lb / 2oz	100g / 0.2lb / 4oz	100g / 0.2lb / 4oz
Tare range	-1.5kg	-3kg	-6kg	-10kg	-15kg
	-3lb	-6lb	-15lb	-20lb	-30lb
	-48oz	-96oz	-240oz	-320oz	-480oz
Max weight	3.009kg	6.018kg	15.045kg	20.09kg	30.09kg
	6.018lb	15.045lb	30.09lb	40.18lb	60.18lb
	96.45lb	240.9oz	481.8oz	644.5oz	964.5oz
Power-on zero range	calibration zero point -10%~+10% FS	calibration zero point -10%~+10%FS	calibration zero point -5%~+10%FS	calibration zero point -3%~+10%FS	calibration zero point -1.5%~+10%FS
Zero Key rang	power-on zero $\pm 1.5\%$ FS				
Interface	RS232, USB				

Max memory(PLU)	EHC-PH: 250 Including direct PLU :M1~M5 EHC-PL: 250 Including direct PLU M1-M55
Scale dimension	EHC-PH: 290(L)x350(D)x115(H)mm EHC-PL: 290(L)x387(D)x450(H)mm
LCD display	18 digits: 6 digit for weight reading, 6 digit for unit price, 6 digit for total price
Unit price range	0.00 – 9999.99 \$/kg or \$/lb
Total price range	0-999.99\$
Working temp.	0℃ ~ 40℃
Power supply	1)12Vdc,500mA with positive center, AC adaptor or 6Vdc4AH lead-acid battery. 2)Average working current is about 45mA(excluding recharge current) 3)When using AC adaptor, the lamp of “A.C.ADP” is on. When charging the battery, the lamp of “CHARGE” is on.
Rechargeable battery life	80 hours continuous use when backlight is off with 12 hour recharge time 30 hours continuous use when backlight is on with 12 hour recharge time (when the battery voltage is below 5.6v, “Lo.bat” is displayed, and beep for 10 seconds and then auto off.)
Platter size:	LxD: 288x210

2. Unpacking and setup

- Take out the scale from the box and place it on a firm, level surface. Avoid locations with rapid temperature changes, excessive dust, moisture, air currents, vibrations, electromagnetic fields, heat or direct sunlight.

- Adjust the leveling feet until the bubble is centered in the circle of the level indicator (located on the front panel).



NOTE: Ensure that the scale is level each time its location is changed.

- Before using the scale for the first time, the internal rechargeable battery should be fully charged for up to 12 hours.
- Connect the supplied AC adapter to the power input receptacle underneath the scale. Plug the AC adapter into a properly grounded power outlet and the battery will begin charging.
- If the scale will be stored or transported in the future, save the packaging material to ensure the best possible protection for the scale.

2.1 Packing List

- Scale
- Manual
- Weighing platforms (one plastic platform +one stainless steel platform)
- Tower assembly (EHC-PL only)
- 12Vdc/500mA adapter

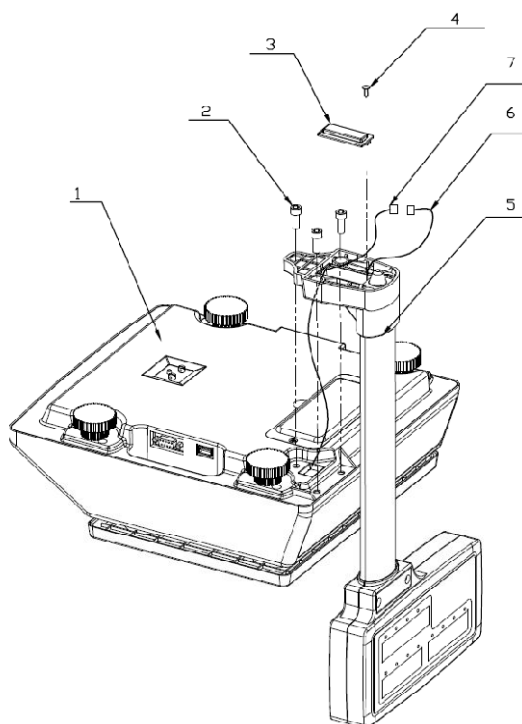
2.2 Assembling

EHC-PH: Install the weighing platforms onto the base, with the pan properly aligned.

EHC-PL: Follow below procedure to install the tower display.

1. Pass the socket on bottom of scale base through the pole bracket, and plug it to the connector.
2. Connect the column to the base and tighten them together with the hexagon socket head cap screws.
3. Place the connector in the bracket, put on the cover and fix it with tapping screws.
4. Installation is complete

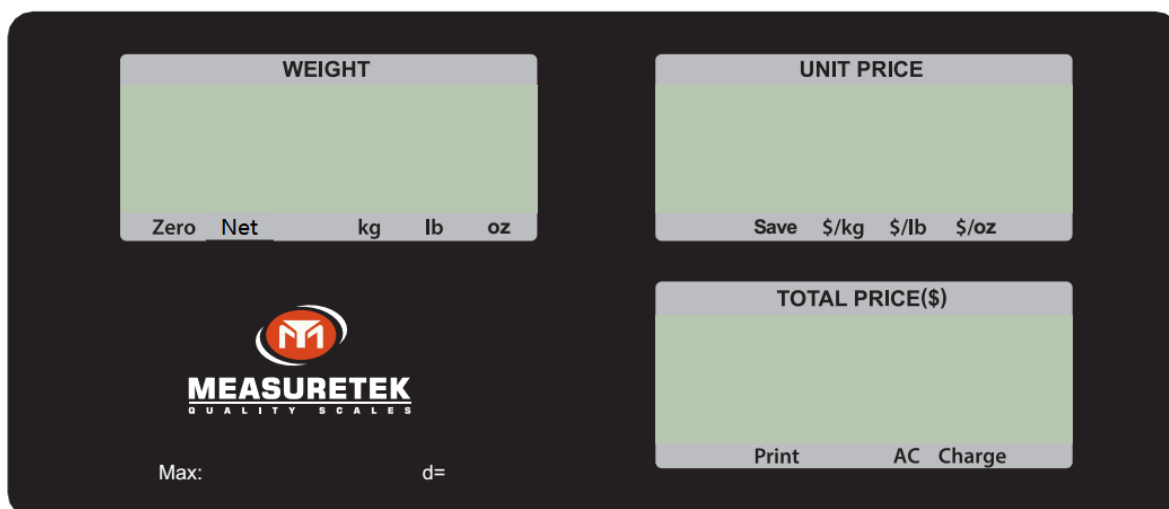
No.	item
1	Scale base
2	Hexagon socket head cap screws (3pcs)
3	Cover
4	Tapping screws (2pcs)
5	Column
6	Connector
7	socket



3. Display and keypad

3.1 Faceplate

- Front Display



- Rear Display



WEIGHT - Weight display window

- **Zero** - Scale is zeroed, gross weight is 0, tare is 0
- **Tare** - Display reading is net weight; tare is **not** 0
- **SAVE** - Unit price fixing indicator
- **kg/lb/oz** - Weight unit indicator

UNIT PRICE - Unit price display window

- **\$/kg, \$/lb, \$oz** - Unit price per kg/lb/oz indicator

TOTAL PRICE(\$) - Total price display window

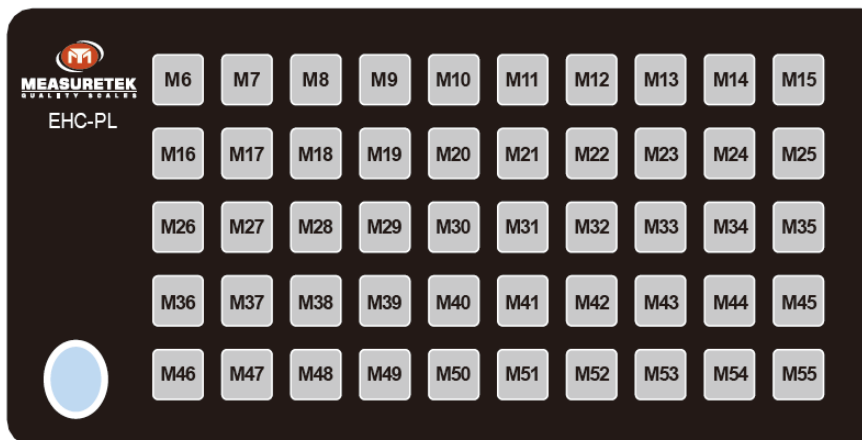
- **PRINT** - Data output indicator
- **AC** - AC Adapter in-use indicator
- **Charge** - Battery being charged indicator

3.2 Keypad functions

- EHC-PH keypad



- EHC-PL keypad



- **0-9:** Numeric keys, used to enter numerical data or alphabets
- **M1-M5:** Direct PLU keys, used to directly recall the stored unit price
- **M6-M55:** Direct PLU keys, used to directly recall the stored unit price (only for EHC-PL)
- **CLEAR:** Used to clear the recorded data
- **ENTER:** Used to confirm the operation or entered data
- **SAVE:** Save the tare weight and unit price when input the unit price, so that the data will not be cleared after one weighing operation.
- **ZERO:** Used to set the zero point after the scale is stable, the range is “power-on zero point $\pm$ 1.5%FS”
- **TARE:** Used to tare the weigh, When total weight is 0, tare weight is cleared, **NET** indicator is off.
- **ST.PLU:** Ready to enter indirect store mode (PLU)
- **RC.PLU:** Ready to enter indirect recall mode (PLU)
- **PRINT:** Used to output the data when has RS232 hardware
- **UNIT:** Switch the unit of price and weight
- **ON/OFF:** When the display is off, press **ON/OFF** key to turn on the scale. When the display is on, press **ON/OFF** key for 3s to turn off the scale. Or the **ON/OFF** key is used to exit the current mode.
- **ON/OFF+0:** Used to enter the business’s name setup mode
- **ON/OFF+1:** Used to enter the LCD’s contrast setup mode
- **ON/OFF+2:** Used to enter the auto-off time setup mode
- **ON/OFF+3:** Used to display A/D inner code or working voltage
- **ON/OFF+4:** Used to enter RS232 parameters setup mode
- **ON/OFF+5:** Used to enter the date and time setup mode
- **ON/OFF+6:** Used to enter ID setup mode
- **ON/OFF+7:** Used to enter OS-2030D Back Feed setup mode (If “232.out” is set to “HOST”, this setting is invalid)
- **ON/OFF+8:** Used to enter OS-2030D Origin setup mode (If “232.out” is set to “HOST”, this setting is invalid)

3.3 The meaning of the special displayed character:

Symbol	7-segments digit	Symbol	7-segments digit	Symbol	7-segments digit
0		A		N	
1		B		O	
2		C		P	
3		D		Q	
4		E		R	
5		F		S	
6		G		T	
7		H		U	
8		I		V	
9		J		W	
(		K		X	
)		L		Y	
		M		Z	
À		Â		Æ	
Ç		È		É	
Ê		Ë		Î	
Ï		Ô		Ù	
Û		Ü			

4. OPERATIONS

■ Normal Weighing Mode

1. Place the scale on a flat, stable surface. Level the scale using the leveling bubble at the lower left side of the display.
2. With the weighing platter empty, turn on power switch (located underneath on the right-hand side of the scale). Due to the high resolution of this scale, allow 10 minutes for the scale to warm up before use for optimum results.
3. Press the **ON/OFF** key to power on the scale. The self-check will run and the scale will display a zero reading. The scale is now ready for weighing.

Note: If the scale does not zero, an error code will be displayed. See **Troubleshooting** to resolve.

4. To change the weighing unit of measure, press the **Unit** key to toggle between kg, lb or oz.
5. Set the tare weight if desired.
6. Place objects on the scale platter and read the weight on the indicator.
7. When finished weighing, press the **ON/OFF** key for 4 seconds to power off the scale.

■ ZERO function

1. Under the normal weighing mode, press **Zero** key to set the scale to zero point when the scale reading is stable (the weighing unit light without shining).
2. When under the tare mode, **ZERO** key is invalid.

Note: If the scale cannot be zeroed, an error code will be displayed. See **Troubleshooting** to resolve.

■ Setting the Tare Weight

This scale allows for both a manually entered pre-set tare weight, as well as a “weighed” tare weight.

1. To enter a weighed tare:

- a. Place an empty container on the platter and press the **Tare** key. The display will return to zero, eliminating the weight of the container. The **Zero** light will go off and the **Tare** light will be lit.
Note: The gross weight must be positive to enter a weighed tare.
- b. To clear the weighed tare, remove all weight from the scale. The display will show a negative weight. Press the **TARE** key to return the display to zero, eliminating the weight of the container. The **Tare** light will go off and the **Zero** light will be lit.

2. To manually enter a known tare:

- a. Use the number keys to input the tare weight. Your entry will be displayed in the “WEIGHT” display window. Then press the **Tare** key to confirm or press the **ON/OFF** key to exit and not confirm.
Example: With the platter empty, entering 100g and pressing the **Tare** key will display “- 0.100” kg.
- b. To recall the previously stored tare weight, press the **RC.PLU** key. Press the **ON/OFF** key to return to weighing.
Note: The previously stored tare weight can only be recalled with the **RC.PLU** key when in tare setting mode.
- c. To clear the manually entered tare weight, (enter “0” and) press the **Tare** key to confirm.
- d. If unit price is in un-saved mode, the tare weight and unit price will be auto cleared after transaction and objects being moved.

■ Save function

1. Under non-save mode, tare and unit price will be cleared automatically; Press **SAVE** key to enter save mode.
2. Under save mode, tare and unit price will not be cleared automatically; Press **SAVE** key to exit save mode, if the gross weight is 0, clear tare weight and unit price.

■ Print function

In normal weighing mode, when the scale reading is stable (The weighing unit light without flashing), press **PRINT** key to output the data via RS232 or USB serial port according to the set method. Print format are as follows:

1. Print Out format in HOST mode

ID: xxxxxx
 Date: yy-mm-dd
 Time: hh:mm
 Gross: xxxx.xxx kg/lb
 Tare: xxx.xxx kg/lb
 Net: xxxx.xxx kg/lb
 Unit Price: xxxxxx.xx \$/kg(\$/lb)
 Total Price: xxxxxx.xx \$

=====

2. Print out format when OS-2130D printer is connected (example):

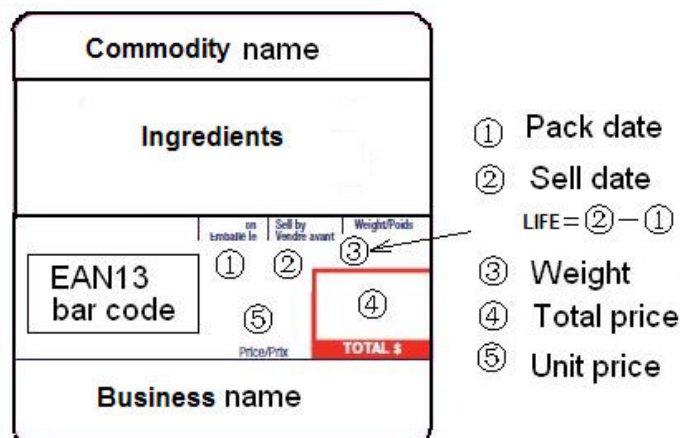


Label dimension is 58mm × 40mm



Label dimension is 58mm × 60mm

3. Content of printed out:



■ Input the unit price directly

1. Use numerical key to enter unit price (range: 0000.00~9999.99)
2. Press **ENTER** key within 3s to confirm the unit price
3. Press **CLEAR** key to remove the input number

4. Put the weighing objects, the WEIGHT window will show its weight and TOTAL PRICE window will show its total value.

Note: After unit price is entered, if there is no operation in 3s, the scale will automatically confirm the unit price and exit the mode.

If under non-save mode, the unit price will be cleared automatically after weighing and removing the objects.

■ Set and Recall direct and indirect PLU

1. Under the normal weighing mode, press **ST.PLU** key, "St.PLU" will be shown in WEIGHT window and "Addr." (prompt to input PLU's address) will be shown in UNIT PRICE window (The Address range is from 1 to 250, M1-M5 is for direct PLUs). The UNIT PRICE window will display "-----".
2. Input the Address by numerical keys 0~9 and **CLEAR** key, use **ENTER** key for confirmation to go to the next step, or press **ON/OFF** key to exit this mode and return back to the normal weighing mode.
3. When the TOTAL PRICE window displays "NAME" (prompt to input trade name), the UNIT PRICE window shows the last six characters of the trade name.
4. Use numerical keys and **CLEAR** key to input the trade name (the length of the trade name is 20 characters), use **ENTER** key to confirm the characters on flashed position or confirm the trade name, or use **ON/OFF** key to exit this mode and return back to the normal weighing mode.
5. When the TOTAL PRICE window displays "INGRDT" (Ingredients, prompt to input ingredients, only available when 232.out is set to PRTd60), the UNIT PRICE window shows the last six characters of the ingredients.
6. Use numerical keys and **CLEAR** key to input the ingredients (the length of the ingredients is 80 char), use **ENTER** key to confirm the char on flashed position or confirm the ingredients, or use **ON/OFF** key to exit this mode and return back to the normal weighing mode.
7. When the TOTAL PRICE window displays "LIFE" (prompt to input shelf life), the unit price shows the input data.
8. Use numerical keys and **CLEAR** key to input the LIFE(≤253), use **ENTER** key to confirm, or press **ON/OFF** key to exit this mode and return back to the normal weighing mode.
9. When "Unit.0" or "Unit.1" is shown in the UNIT PRICE window, that means the weight unit of the stored unit price is per Kg (Unit.0) or per lb (Unit.1). "-----" will be shown in the TOTAL PRICE window.
10. Use **UNIT** key to choose \$/kg, \$/lb or \$oz, press **ENTER** key to save the chosen unit and go to the next step, or press **ON/OFF** to exit the input and return back to the normal weighing mode.
11. The TOTAL PRICE window displays "Unit.P" (prompt to input unit price), the UNIT PRICE window shows input data.
12. To press 0~9 and **CLEAR** key to input the unit price, press **ENTER** key to store and confirm, or press **ON/OFF** key to exit this mode and return back to the normal weighing mode.
13. The TOTAL PRICE window displays "Tare" (set the digit tare), the UNIT PRICE window displays the entered data.
14. Use the numerical keys 0-9, **CLEAR** key to input the tare weight, use **ENTER** key to store and confirm.
15. The TOTAL PRICE window displays "ItEm.C" (set the item code), the UNIT PRICE window displays the entered data that stored previously.
16. Use the numerical keys 0-9, **CLEAR** key to input the tare weight, use **ENTER** key to store and confirm. then go to the next store unit setting, namely, plus one to the last Address, then repeat the steps from 1-15. Or press **ON/OFF** key to give up input and back to the normal weighing mode;

▪ Recall direct PLU

Recall the stored direct unit price by pressing 1-9 key down more than 2.5s, the recalled unit price will be displayed in UNIT PRICE window. The TOTAL PRICE window will display “duP:xx”, then followed by the actual total price.

▪ Recall indirect PLU

1. Under the normal weighing mode, press **RC.PLU** key to enter this mode, and display "rc.PLU" in WEIGHT window, display "Addr." (The Address range is from 1 to 250) in TOTAL PRICE window. The UNIT PRICE window will display input address data.
2. Use the numerical 0~9 and **CLEAR** key to input the PLU's address, use **Enter** key to confirm and go to the next step or press **ON/OFF** key to exit this mode and return back to the normal weighing mode.
3. Then the UNIT PRICE window will display the recalled unit price, the TOTAL PRICE window displays “PLU.XXX”(XXX is the Address) and then will go back to the normal total price displaying mode later, and then use new unit price, tare weight, new weight unit trade name, shell life)

5. LCD contrast and Backlight mode setting

1. Under the normal weighing mode, press and hold down **ON/OFF** and **1** key at the same time until the WEIGHT display window shows “SETUP”, UNIT PRICE window shows "BLGt.Md" (backlight mode) and the TOTAL PRICE window shows the backlight mode code x(x=1-3), use the numerical keys to input the backlight mode, and press **ENTER** key for confirmation.

Press **ON/OFF** key to exit this mode and the scale will automatically reset.

x=1 – back light is always off

=2 – back light is always on

=3 –Backlight On Request (backlight temporarily switches off after 15 seconds of inactivity, and reactivates with a key press or with an item placed on or removed off the pan)

2. When UNIT PRICE window shows “LCd.CST” (LCD contrast) and the TOTAL PRICE window shows the contrast level x (x=1-9,default is 9). Use the numerical keys to input the contrast level, and press **ENTER** key for confirmation.

Press **ON/OFF** key to exit this mode and scale will automatically reset.

6. Auto-off time setting

Under the normal weighing mode, press and hold **ON/OFF** and **2** key at the same time until the scale displays “SETUP” in WEIGHT window, “A.OFF.t” (auto off time) in UNIT PRICE window and auto-off time xx (xx=00~30, when 00 is used that means no auto off function) in TOTAL PRICE window. Use numerical keys to input the auto-off time and press **Enter** key for confirmation. Press **ON/OFF** key to exit this mode and the scale will automatically reset.

7. Display A/D inner code and working voltage

When in normal working mode, press **ON/OFF** and **3** key at the same time till the UNIT PRICE window shows “CodE 2” to enter this mode. Now WEIGHT window will show “UoL.x.x” (Voltage x.x V), this means the inner working voltage is x.x V. If the scale uses AC power adaptor, the voltage is the power adaptor voltage after regulating. If AC adaptor is not used, this around voltage is battery's voltage. A/D internal code will be displayed in TOTAL PRICE.

8. The details about RS232 communication

1. Under the normal working mode, press and hold **ON/OFF** key and **4** key at the same time until the WEIGHT window shows "SETUP". Under this mode, you can set the RS232 baud rate, data format and communication format.
2. After entering into this mode, the weight window will show "Setup", the UNIT PRICE window will show "232.oUt" (RS232 output content format) and the TOTAL PRICE window shows one of following content:
 - 2.1 **HOST** (EHC-PH/PL-xxxx is connected with host device, e.g. a PC)
 - 2.2 **Prtd40** (EHC-PH/PL-xxxx is connected with the OS-2130D, label dimension is 58mm × 40mm, date will be printed on label)
 - 2.3 **Prtd60** (EHC-PH/PL-xxxx is connected with the OS-2130D, label dimension is 58mm × 60mm, date will be printed on label)
 - 2.4 **PrtNd4** (EHC-PH/PL-xxxx is connected with OS-2130D, label dimension is 58mm × 40mm, no date will be printed on label)
 - 2.5 **PrtNd6** (EHC-PH/PL-xxxx is connected with the 2130D, label dimension is 58mm × 60mm, no date will be printed on label)

Use numerical keys **0,1,2,3,4** to choose RS232 output content format (0-HOST, 1- **Prtd40**, 2- **Prtd60**, 3- **PrtNd4**, 4- **PrtNd6**), use **ENTER** key for confirmation to go to the next step, or **ON/OFF** key to exit this mode.
3. Then, the WEIGHT window will show "Setup", the UNIT PRICE window will show "232.bPS" (RS232 band rate: bit per second) and TOTAL PRICE window shows baud rate xxxxx. Use numerical keys 1,2,3,4,5 to choose RS232 baud rate:
 - 1--1200bps
 - 2--2400bps
 - 3--4800bps
 - 4--9600bps
 - 5--19200bps

Press **Enter** key for confirmation to go to the next step, or **ON/OFF** key to exit this mode.
4. Then, the weight window will display "232.dFt" (data format), the total price window will display data format xxx. Use 1, 2, 3 key to select data format:
 - 1—8N1 8 bits data, no odd or even , 1 start bit, 1stop bit
 - 2—7O1 7 bits data, 1 even , 1 start bit, 1stop bit
 - 3—7E1 7 bits data, 1 odd, 1 start bit, 1stop bit,

Press **Enter** key to confirm the input and go to the next step, or use **ON/OFF** key to exit this mode.
5. Then, the WEIGHT window will display "Prtd.dt" (OS-2130D print date format), the TOTAL PRICE window will display data format xxx. Use 0, 1, 2 key to select data format:
 - 0—CANADA Candadian format: YY MM DD
 - 1—USA USA format: DD-MMM-YY
 - 2—Numerical Numerical format

Press **Enter** key to confirm the input and go to the next step, or use **ON/OFF** key to exit this mode.
6. Then, the UNIT PRICE window shows "USB.oUt" (USB output content format) and the TOTAL PRICE window shows HOST (the scale is connected with host device, e.g. a PC), use **ENTER** key for confirmation to go to the next step, or **ON/OFF** key to exit this mode.
7. Then, the WEIGHT window will show "SETUP", the UNIT PRICE window will show "USB.bPS" (USB band rate: bit per second) and TOTAL PRICE window shows baud rate xxxxx. Use numerical keys **1,2,3,4,5** to choose RS232 baud rate:

1--1200bps

2--2400bps

3--4800bps

4--9600bps

5--19200bps

Press **Enter** key for confirmation to go to the next step, or **ON/OFF** key to exit this mode.

8. Then, the WEIGHT window will display "USb.dFt" (data format), the total price window will display data format xxx.

Use 1, 2, 3 key to select data format:

1—8N1 8 bits data, no odd or even , 1 start bit, 1stop bit

2—7O1 7 bits data, 1 even , 1 start bit, 1stop bit

3—7E1 7 bits data, 1 odd, 1 start bit, 1stop bit,

Press **Enter** key to confirm the input and go to the next step, or use **ON/OFF** key to exit this mode.

Then, the Unit Price window will display "D.CODE", the TOTAL PRICE window will display the department code. Use the numeric keys 0-9 to input the code (00-99). Press **Enter** key to confirm the input and go to the next step, or use **ON/OFF** key to exit this mode.

Then, the UNIT PRICE window will display "B.PRT.FT" (format of barcode for printing), the TOTAL PRICE WINDOW will show the barcode. Use the numerical keys 0, 1, 2, 3 to select which format will be used.

NO	TYPE	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18
0	EAN13	D	D	I	I	I	I	I	S	P	P	P	P	C					
1	EAN13	D	D	I	I	I	I	s	P	P	P	P	P	C					
2	EAN13	D	D	I	I	I	I	I	I	P	P	P	P	C					
3	EAN13	D	D	I	I	I	I	I	P	P	P	P	P	C					
4	EAN13	D	D	I	I	I	I	P	P	P	P	P	P	C					
5	EAN13	D	D	I	I	I	P	P	P	P	P	P	P	C					
6	EAN13	D	D	I	I	P	P	P	P	P	P	P	P	C					
7	EAN13	D	D	I	P	P	P	P	P	P	P	P	P	C					
8	EAN13	D	D	I	I	I	I	I	T	W	W	W	W	C					
9	EAN13	D	D	I	I	I	I	t	W	W	W	W	W	C					
10	EAN13	D	D	I	I	I	I	I	I	W	W	W	W	C					
11	EAN13	D	D	I	I	I	I	I	W	W	W	W	W	C					
12	EAN13	D	D	I	I	I	I	W	W	W	W	W	W	C					
13	I2of5	D	D	I	I	I	I	W	W	W	W	W	P	P	P	P	P	P	C

D: Department Code;

I: Item Code;

S: Check-sum for price (4 digits);

S: Check-sum for price (5 digits);

T: Check-sum for weight (4 digits);

- T: Check-sum for weight (5 digits);
- P: Total Price (If the weight window display zero, it will be unit price);
- W: Weight;
- C: Check-sum for all characters;

Press **ENTER** key to confirm, press **ON/OFF** key to exit.

Note: if the price, weight or code is not in the range, there will be a mistake when printing the labels.

9. Then, the UNIT PRICE window shows "Urt.CFt" (communication format), the TOTAL PRICE window shows communication format xxx. Use the numerical keys 0, 2 to select the communication format:

0—Non communication

2—When the scale becomes stable, the data will be output after pressing **PRINT** key, the format when "232.out" is set to "0-HOST" is as follows. The format when "232.out" is set to "1- Prtd40", "2- Prtd60", "3- Prtd4" or "4- Prtd6" can refer to "Print out format when OS-2130D printer is connected" on page 7.

```

<LF>ID:          xxxxxx<CR><EXT>
<LF>Date:        YY-MM-DD<CR><EXT>
<LF>Time:        hh:mm<CR><EXT>
<LF>Gross:       xxx.xxx kg(or lb)<CR> <EXT>
<LF>Tare:        xxx.xxx kg(or lb)<CR> <EXT>
<LF>Net:         xxx.xxx kg(or lb)<CR> <EXT>
<LF>Unit price: xxxxxx.xx $/kg(or $/lb)<CR><EXT>
<LF>Total price: xxxxxx.xx $<CR> <EXT>
  
```

NOTE: The ID information can only be printed out after setting.

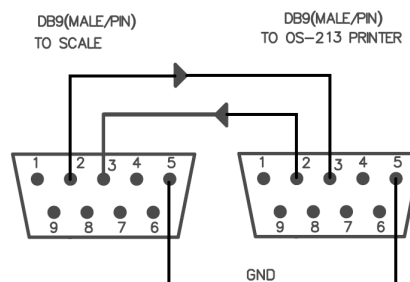
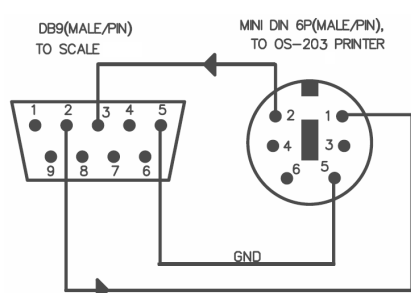
Press **Enter** key to confirm the input and go to the next step, or use **ON/OFF** key to exit this mode.

7. RS-232 connects between scale and host:

SCALE(Indicator)	-----CABLE (9 pins) -----	HOST
DB9(Female)	-----DB9(Male)-----DB9(Female)-----	DB9(Male)
PIN2 TXD	-----2-----2-----	PIN2 RXD
PIN3 RXD	-----3-----3-----	PIN3 TXD
PIN5 GND	-----5-----5-----	PIN5 GND
PIN4 DSR	-----4-----4-----	PIN4 DTR
PIN6 DTR	-----6-----6-----	PIN6 DSR
PIN7 CTS	-----7-----7-----	PIN7 RTS
PIN8 RTS	-----8-----8-----	PIN8 CTS
PIN1 NC	-----1-----1-----	PIN1 NC
PIN9 NC	-----9-----9-----	PIN9 NC

Note: PIN4 and PIN6, PIN7 and PIN8 are shorted in the scale!

8. RS-232 cable connects between scale and OS-2130D:



9. Date and time setting

- Under the normal working mode, press and hold **5** and **ON/OFF** key for more than 3s to enter into this mode. In this mode, you can set the system date and time. (Note: the date and time in scale will be lost after the scale power off if no RTC module is installed)
- After entering into this mode, the WEIGHT window will display "SETUP", the UNIT PRICE window will display "dAtE"(date, prompt to input date) and the TOTAL PRICE will display the current date xx.xx.xx. Use the numerical keys to input the date (format: YY.MM.DD), use **Enter** key to confirm and go to the time setting mode.
- When the WEIGHT window remains "SETUP", the unit price displays "TiME"(time, prompt to input time) and the TOTAL PRICE window displays the current time xx.xx.xx, Use the numerical keys to input the time (Format: hh.mm.ss), press **Enter** key to confirm the input and exit this mode.

10. Business name setting

- Under the normal working mode, press and hold **0** and **ON/OFF** key for more than 3s to enter. In this mode, you can set the business name.
- The WEIGHT window displays "bUSI.N1" (prompt to input "business name" in first line), the UNIT PRICE window and the TOTAL PRICE window display the last 12 char of the business name.
- Use numerical keys and **CLEAR** key to input the business name (the max length of the business name is 20 char), use **ENTER** key to confirm the business name and exit this mode.
- The WEIGHT window displays "bUSI.N2"(prompt to input "business name" in second line business name), the UNIT PRICE window and the TOTAL PRICE window display the last 12 char of the business name.
- Use numerical keys and **CLEAR** key to input the business name (the length of the business name is 20 char), use **ENTER** key to confirm the business name and exit this mode.

11. Key function in the trade name or business name setting mode

0	0 space () ÀÂÆÇÈÉÊË ÌÎÏÏÏÏÏÏ	1	1ABC
2	2DEF	3	3GHI
4	4JKL	5	5MNO
6	6PQRS	7	7TUV
8	8WXYZ	9	9

12. ID setting

- Under the normal working mode, press and hold **6** and **ON/OFF** key for more than 3s to enter this mode. In this mode, you can set ID code. (Note: the data will be lost after the scale reset)
- The weight window displays "SETUP", the UNIT PRICE window displays "Id" and the TOTAL PRICE window displays Id code xxxxxx(the default Id code is 000000).
- Use the numerical keys to input ID code, then press **Enter** key to confirm the input and exit this mode.

13. OS-2130D Back Feed setting

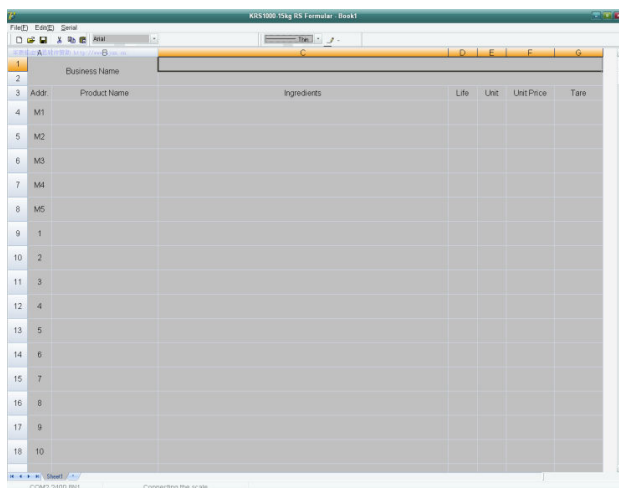
1. Under the normal working mode, press and hold **7** and **ON/OFF** key for more than 3s to enter this mode. In this mode, you can set the back feed (OS-2130D).
2. The WEIGHT window displays “SETUP”, the UNIT PRICE window displays “BAK.FED”(Back Feed), and the TOTAL PRICE window displays “DISABL”(Disable).
3. Use **1** key to select "ENABLE" (OS-2130D will feed about one more inch so that the user can see the whole label.), use 0 to select "DISABLE", use **ENTER** key to confirm and exit this mode.

14. OS-203/213 Origin setting

1. Under the normal working mode, press and hold **8** and **ON/OFF** key for more than 3s to enter this mode. In this mode, you can set the origin point (OS-2130D).
2. The WEIGHT window displays “SETUP”, the UNIT PRICE window displays “ORG.X”(Origin.X), and the TOTAL PRICE window displays the X direction offset number.
3. Use digit keys and **Clear** to input X offset (0-255), press **Enter** key to confirm the input and go to the next step.
4. The WEIGHT window displays “SETUP”, the UNIT PRICE window displays “ORG.Y”(Origin.Y), and the TOTAL PRICE window displays the Y direction offset number.
5. Use digit keys and **Clear** to input Y offset (0-255), press **Enter** key to confirm the input and the OS-2130D will print out a new blank label sample using new start position, and then exit this mode

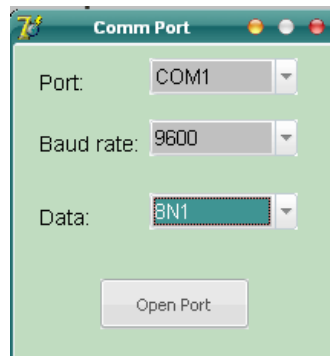
15. PLU upload and download

1. Connect the scale to PC through RS232 interface, run EHC-PH.exe, this software can only process *.xls files.
(The following is Example for EHC-PH-1530)

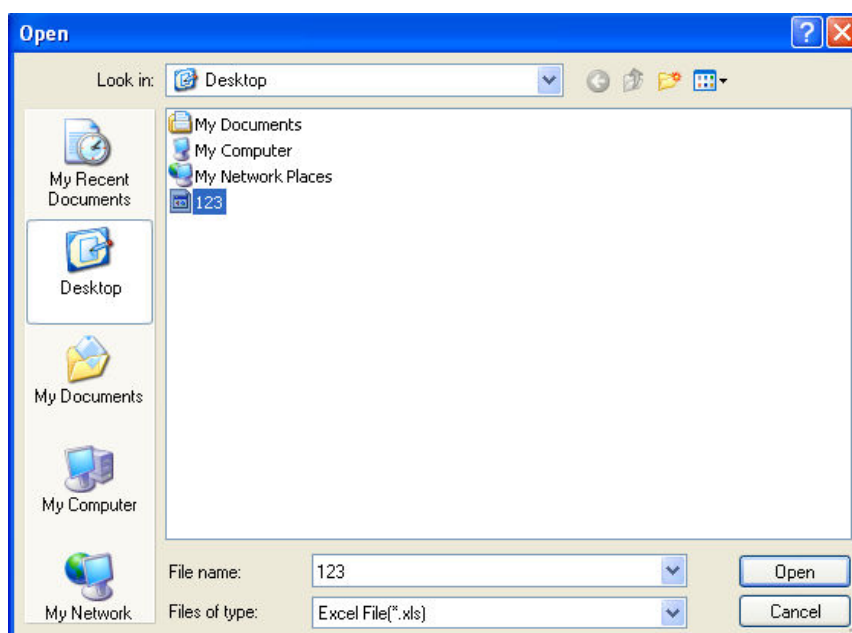
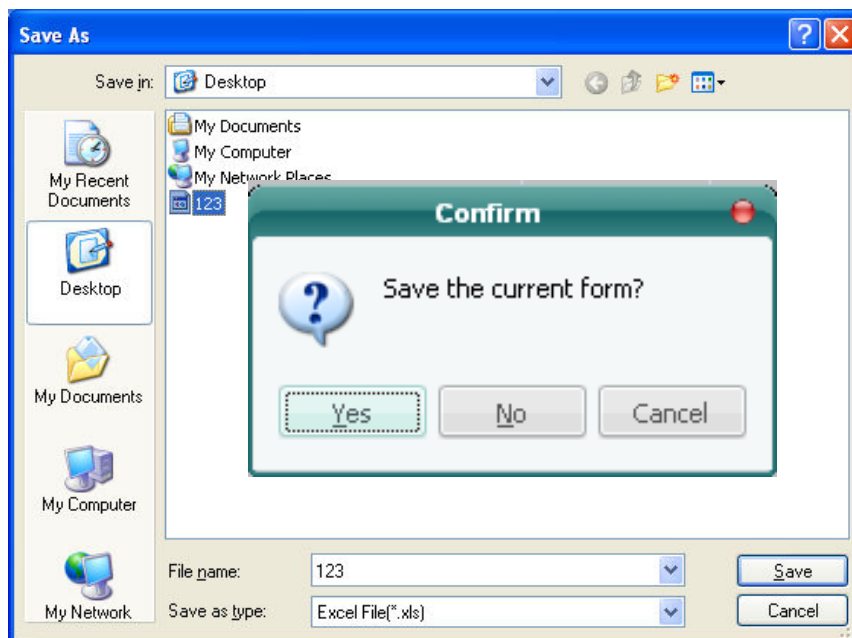


2. Software searches all serial ports on PC, and tries to connect with the scale. In the Status bar, it will separately display present serial port, baud rate, data format. Take the following figure for example, “COM2,2400,8N1” refers to the present serial port COM2, baud rate 2400, data format 8N1. If the connection status displays “Connecting the scale”, it means the Software is searching EHC-PH scale, if it displays “The scale is connected”, it means the Host has been connected with the scale.

3. The Software can search all the present serial ports automatically, until connect with the scale. Manual connection is also available by use "Serial Set" in "Serial" menu.

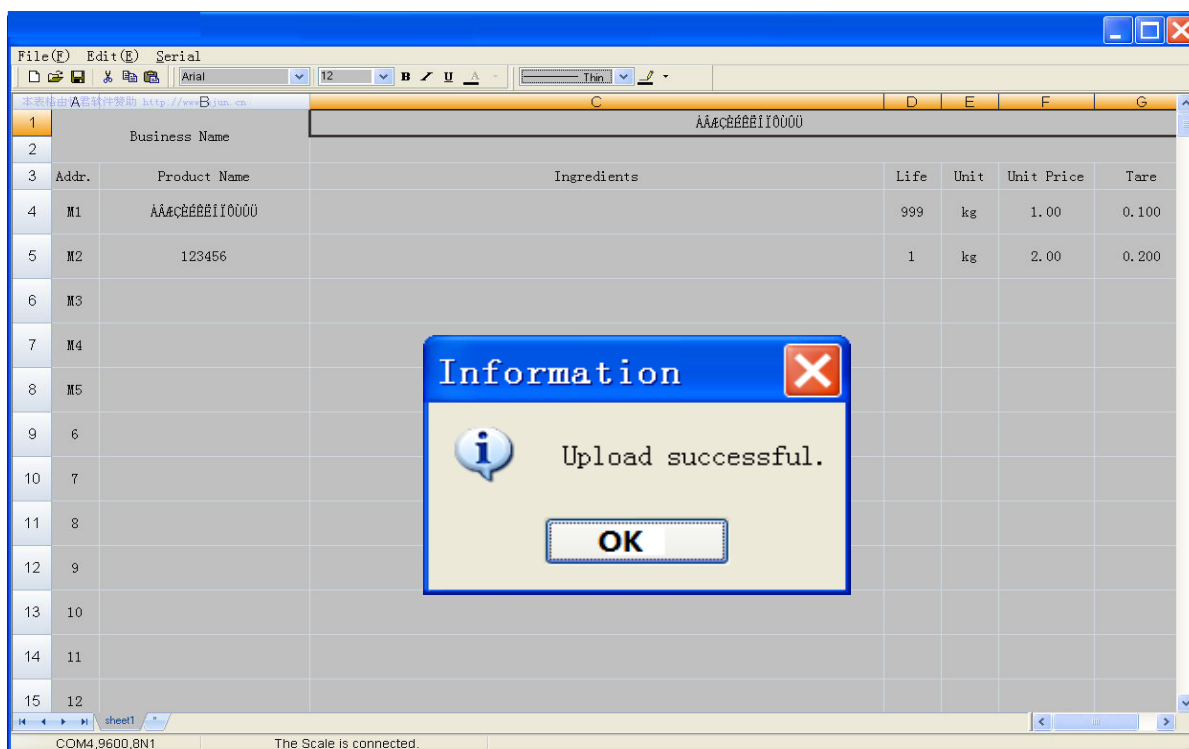


4. Press "Open" or "open file" button in "File" menu, it will first remind you whether to save the current file, and then open the file and dialogue box to choose and open the right file.



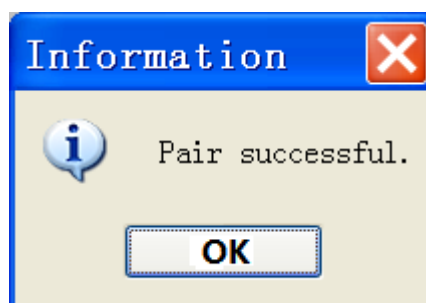
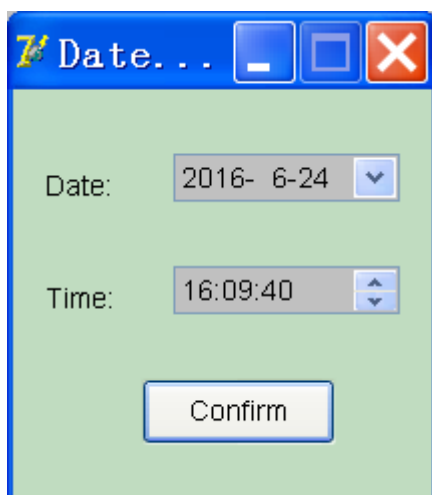
-
- The screenshot shows a Windows XP desktop environment. In the background, a Microsoft Excel spreadsheet is open. The spreadsheet has a blue header row with columns labeled: Business Name, Addr., Product Name, Ingredients, Life, Unit, Unit Price, and Tare. The data rows show various entries, including 'M1', 'M2', 'M3', 'M4', and 'M5'. Two 'Information' dialog boxes are overlaid on the spreadsheet. The dialog box on the left, titled 'Information', contains an information icon, the text 'Stop downloading!', and an 'OK' button. The dialog box on the right, also titled 'Information', contains an information icon, the text 'Download successful.', and an 'OK' button. The Windows taskbar at the bottom shows the 'Start' button, a few open application icons, and the system clock displaying '11:58 AM 11/11/2009'.

6. Choose "Upload" in "Serial" menu, the scale will display "UPLOAD". the status bar will display the present upload information, if it displays "uploading business name", it means it is uploading the store name. If it displays "uploading Mxx", it means it is uploading the information of M1~M9. if it displays "uploading No. xxx", it means it is uploading the information of PLU1~250. "Upload successful" will be displayed after uploading finished.

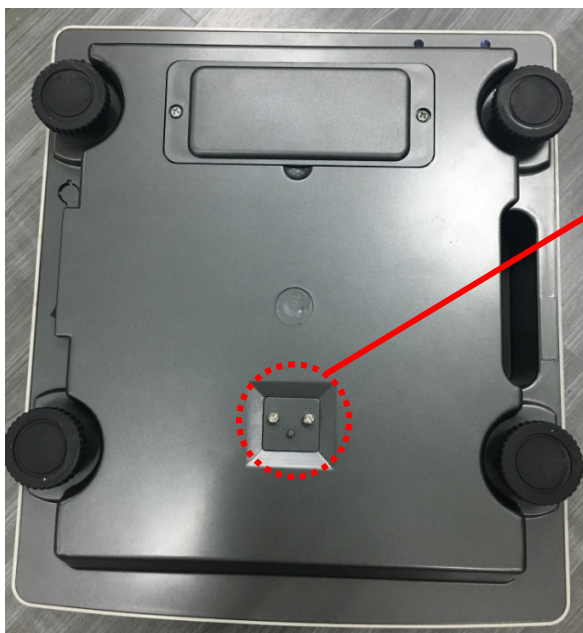


7. Date and Time setting

Choose "Pair" in "Serial" menu to open the date and time setting dialogue box, it will display the system clock of PC, press "Confirm" or exit the dialogue box directly. After the software send date and time setting data to the scale, it will display "Pair successful."



16. Calibration



The calibration switch is located underneath the scale base.

When the switch is set towards the USB or RS232 interface, it means CAL switch is on. When the switch is set towards the power switch, it means the CAL switch is off.

1. When the calibration switch is ON, turn on the scale, or make the calibration switch ON when the scale is under the weighing mode, the scale will enter the calibration mode automatically.
2. After entering into the calibration mode, the WEIGHT window will display CAL.ON, which means the calibration switch is on. The UNIT PRICE window displays "Unit.0" or "Unit.1", which means the chosen calibration weighing unit is kg(Unit.0) or lb(Unit.1), the TOTAL PRICE window displays empty.
3. Use **[Unit]** key to choose the calibration weighing unit kg or lb (the corresponding unit indicator will be lightened on), use **[ENTER]** key to confirm the unit and go to the next step.
4. The WEIGHT window still displays CAL.ON, UNIT PRICE window displays "unLoAd" (this means that the scale is ready to calibrate the zero point position, please remove any weight on the scale), the TOTAL PRICE window display the output inner code of A/D. When the scale is stable and the unit indicator stops flashing, press **[ENTER]** key to confirm the zero point calibration. After the scale is stable and gets the zero point, the scale will go to the next step automatically.
5. The display of the WEIGHT window remains the same, the UNIT PRICE window displays "LoAd", which means the scale is ready to calibrate the standard weight. The display of the TOTAL PRICE and WEIGHT window remain the same. Place a standard weight between 25%-100% FS on the center of the scale, press **[ENTER]** key to confirm the standard weight calibration after the scale is stable and the unit indicator stops flashing. When the scale gets the stable data, it will go to the next step automatically.
6. The display of the WEIGHT window remains the same, the UNIT PRICE window displays "InPLd" (Input Load Weight, the TOTAL PRICE window displays 0, use 0-9 numerical key or **[CLEAR]** to input loaded standard weight, then press **[ENTER]** key for confirmation, the input data will be shown on the total quantity window, and then please remove any weight on the scale.
7. When the WEIGHT window displays "unLoAd" again, the scale is ready to re-confirm the zero point, remove any weight on the scale, after the scale is ready and unit indicator stops flashing, press **[Enter]** key to confirm.
8. After the calibration completes, the UNIT PRICE window displays "CAL.END" and TOTAL PRICE window displays current

weight.

9. If there's an error occurred in calibration, the scale will display CAL.ERR; It usually means incorrect data input or loading weight, and please try to return back to the last step to disposal.
10. Once the calibration switch is changed to OFF; the scale will exit the calibration mode.

17. The meaning of some displayed symbols

Err01-----Weight signal is too large
Err02-----No proper data can be displayed
Err03-----Weight signal is too small
Err04-----Zero point is over the setting range
Err05-----Zero point is below the setting range
Err06-----Error in unit key operation
Err12-----The setting parameter(s) is not in normal range
Err20-----There is an error in calibration
Err30-----ADC is over max. range
CAP.-----Capacity
UoL.-----Voltage
SEPLU-----To set and store the indirect unit price
Addr.-----PLU address
Unit-----Weighing unit selecting
rCPU-----Recall PLU
UNLOAD-----To unload the weight
LOAD-----To load the weight
INPUT-----To input load weight
CAL.ON-----Calibration enable switch is ON
CAL.OFF-----Calibration enable switch is OFF

18. Troubleshooting and Battery Charging

Troubleshooting

Troubleshooting		Possible causes	Solution
Power-on problem	No display	Not well load with the batteries or no electricity or not well insert with adapter or plug.	Check if the batteries have been load with the wrong polarity , if well connection with batteries; Replace new batteries; Check the power supply with the adapter
		There're some electric components of power on circuit damaged, crystal-oscillator or IC	Replace with new PCB
		Key button not work	Replace with new key button
	Display irregular character	there is something wrong with the crystal-oscillator on PCB, or MCU not well insert	Replace the crystal-oscillator; well insert the MCU.
	After testing display ,not go to 0	Something wrong with the keys, or faulty PCB board, or Load cell	Check the key button; Replace the PCB or load cell
	Missing segment or marks on LCD	LCD connect pin broken	Replace LCD
Err	Err04	Power-on zero point exceed the 10%FS of calibration zero point; Object on the platform is more than 1.5%FS when pressing ZERO key; Load cell zero balance changes;	Remove the objects on the platform; calibrate again, or replace load cell
	Err05	zero point below the -1.5%FS of the data when calibrating; There is one foot not stand on the solid base; Remove SS platter before power on the scale; Load cell zero point output changes;	Lay the foot in the same level; Put back the SS platter; Calibrate again , or replace load cell
	Err20	Calibration doesn't work; Load cell with no signal; or too small output or too big output I; Inner code twinkles too much. Load cell signal wire broken; Load cell broken; Load cell zero point changes;	Calibrate scale again; replace PCB or load cell
	Err01	Weight exceed 9d of the max capacity; or the load cell output signal is too big	Remove the object; Or change the load cell; Calibrate scale again
	Err03	Remove the SS platter when scale is on	Put back the SS platter
	Err30	The load cell signal is too big.	Replace the load cell; or Replace PCB

	Display Lo.bAt	Voltage lower than 5.7V	Replace with new batteries
Weighing not accurate or calibration can't be finished	Linearity is not good	The platform is not laid in level; Four feet are not laid in level; Moveable leg lock the seal cover of the foot; Load cell broken; There are some objects between load cell and scale.	Lay the platform in the same level; Set the four feet in the same level; Check the moveable foot; Clear the objects; Replace the load cell.
	Big tolerance with full corner	The platform is not laid in level; Four feet are not laid in level; Moveable foot lock the seal cover of the foot; Load cell broken; There are some objects between load cell and scale.	Lay the platform in the same level; Set the four feet in the same level; Check the moveable foot; Clear the objects; Replace the load cell.
	There is some problem with repeating function	The platform is not laid in level; Bottom dust proof wash lock the bottom bolt; Broken load cell; Aging problem with PCB; There is some objects between load cell and scale.	Lay the platform in level; Calibrate four feet; Check the dust proof wash; Clear the objects; Replace the load cell.
	Calibration can't be finished	The inner code at zero point is too small or too big; not enough with the full capacity inner code; not stable; there is some objects between load cell and scale body; broken load cell.	Calibrate again; Replace PCB; Clear the objects; Replace the load cell.
Function problem	No function with key button	Key button not work; aging problem of the apparatus on PCB	Check the button; Replace PCB
	Not smoothly communicating	Communication wire broken; or the interface apparatus broken	Replace wire; Replace PCB

Battery and Charging

Power is supplied by an internal rechargeable 6V 4Ah rechargeable battery. When “Lo.bAt” is displayed, the battery must be recharged. Plug in the AC power adapter to recharge the battery. The scale may continue to be used on AC power during charging. Full charging time is approximately 10-12 hours.

Battery life and recharge time will vary with use. Over time, the operating time per each full charge will degrade. If the operating time is no longer acceptable, the battery must be replaced. When storing the scale for extended periods, the battery must be charged every 90 days to avoid premature performance degradation.